BY ORDER OF THE COMMANDER
AIR FORCE MATERIEL COMMAND

AIR FORCE MATERIEL COMMAND
INSTRUCTION 20-104

5 JUNE 2014

Logistics

ITEM UNIQUE IDENTIFICATION

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

ACCESSIBILITY: Publications and forms are available for downloading or ordering on the e-Publishing website at **http://www.e-Publishing.af.mil/**

RELEASABILITY: There are no releasability restrictions on this publication

OPR: HQ AFMC/A4NA

Certified by: HQ AFMC/A4
(Ms. Lorna Estep)
Pages: 36

This publication implements AFI 20-110, *Nuclear Weapons-Related Materiel Management*, AFI 63-101/20-101, *Integrated Life Cycle Management,* and MIL-STD-130N, Change 1, *DoD Standard Practice Identification marking of U.S. Military Property.* It provides guidance and procedures related to IUID enabled SIM and applies to all organizations within the Air Force Materiel Command (AFMC). This publication is not applicable to Air National Guard or Air Force Reserve. This is not a SIM instruction. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using an AF Form 847, *Recommendation for Change of Publication*. This publication may be supplemented at any level, but must be routed to the OPR of this publication for coordination prior to certification and approval. All waiver requests must be routed to the OPR for approval prior to implementation. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with (IAW) Air Force Manual (AFMAN) 33-363, Management of Records, and disposed of IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS).

Chapter 1

INTRODUCTION

1.1. Background. In September 2002, the Deputy Under Secretary of Defense (Logistics and Materiel Readiness) disseminated a directive memorandum on Serialized Item Management (SIM). This memorandum tasked the Military Departments and Defense Agencies to develop SIM programs for select populations of items. It defined criteria for determining what shall be included in a SIM program and highlighted the need to use automatic identification technology (AIT) to support the collection of data associated to individual items. DoD Instruction 4151.19 refined and formalized the initial SIM policy using Item Unique Identification (IUID) as the means to uniquely identify and mark items requiring serialized management. DoD Instruction 8320.04, dated June 2008, provides direction on implementing IUID.

1.2. IUID. Is the DoD's initiative to mark qualifying tangible personal property with a symbol containing a Unique Item Identifier (UII) data set to construct a globally unique and unambiguous item identifier using the International Organization for Standardization/International Electrotechnical Commission (ISO/IEC) 16022 EEC 200 two-dimensional data matrix encoding. (Ref. Attachment 3 for specific data matrix format requirements). AIT includes linear barcodes, two-dimensional barcodes, and radio-frequency identification (RFID) technologies along with the computerized infra-structure of optical readers and scanners to collect and associate data with items identified using AIT. These technologies simplify identification by removing the necessity to manually enter data.

1.2.1. Automated Information Systems (AIS) are computer information systems that store and process data collected using AIT to enable better decision processes concerning the management of items.

1.2.2. SIM is differentiated from Serial Number Tracking (SNT) by the use of data for decision processes characterizing active management of an individual item or a population of like items. While SNT programs will gather data concerning the status of items with regards to what the item is, its physical location, its serviceability, and potentially who is accountable for it, SNT may or may not use the data to make informed decisions concerning how to manage the individual item or population of like items.

1.2.3. The objective of SIM is to improve the availability of military equipment while reducing sustainment costs. This is achieved by having timely and reliable data on items, to include Class II military equipment, Class VII support equipment, and Class IX repairable items used by the Air Force. With higher quality data, better decisions concerning maintenance and procurement of items are feasible to ensure the proper items are available for Warfighters at the desired location, when needed without requiring excessive amounts of resources in secondary inventories.

1.2.4. SIM, using IUID, will improve weapon system reliability and maintainability by providing the capability to uniquely track, monitor, and manage repairable assets across the maintenance enterprise. Uniquely identified repairable assets will enable item managers, engineers, and maintenance personnel to identify 'bad actor' assets continually not meeting reliability standards. Removing 'bad actor' assets from the repairable asset pool, and

providing reliable replacements, will decrease maintenance removals and asset repair actions thereby increasing weapon system reliability and maintenance capacity.

1.2.5. IUID enabled SIM will provide enhanced capabilities throughout logistics, engineering, and financial management and will lead to supply chain optimization, performance improvements, and process streamlining.

1.2.6. Improved logistics processes through IUID enabled SIM include depot maintenance, warranty management, safety and flight item management, and an overall improvement of the disposal process.

1.2.7. The financial management community expects serialized item visibility to improve standing related to the Chief Financial Officers (CFO) Act of 1990 including improved audits, physical inventory reporting, and more accurate asset valuation.

1.2.8. Other benefits realized as a result of IUID enabled SIM include, parts life usage determination, parts availability, automated data capture, repair/materiel demand planning, deployed support equipment management, and timely parts location.

1.3. Purpose. The primary purpose IUID is to provide the AF the capability to generate and collect item unique data for managing materiel of uniquely identified items in order to enhance asset visibility, financial accountability, and improve weapon system life cycle management.

1.4. Scope. The scope of this instruction includes qualifying tangible personal property that require item level traceability and are procured or sustained by AFMC. This includes Class II, Class V, Class VII, Class VIII and Class IX items procured or sustained by others on behalf of AFMC.

Chapter 2

ROLES AND RESPONSIBILITIES

2.1. This chapter defines roles and responsibilities for organizations responsible for managing and executing IUID within AFMC. Additional complementary functional and organizational directions and details to execute the roles and responsibilities can be found throughout this document, and in AFI 63-101/20-101.

2.2. Headquarters AFMC designates:

2.2.1. AFMC/A4 as the lead organization within AFMC to oversee and manage IUID implementation. As the Command's IUID lead, A4 will work with A8, applicable Centers and Program Managers to develop POM inputs to implement and resource IUID/SIM at all levels for all Air Force assets in the various classes of supply.

2.2.2. The AF Automatic Identification Technology Program Office (AF AIT PO) within AFMC/A4N to execute SNT/IUID policy, project implementation and development of AIT applications and tools to exploit and enable serialize item management.

2.2.3. The Air Force Sustainment Center (AFSC), as central manager of AF Class IX repair parts and selected Class VII assets, to lead marking of legacy items that flow through the depots meeting requirements for Class VII IUID marking and registration.

2.2.4. The Air Force Nuclear Weapons Center (AFNWC) as the executive agent for management of Nuclear Weapons Related Material (NWRM) with responsibility for IUID implementation on NWRM assets.

2.2.5. AFLCMC as the lead organization to ensure IUID compliance during acquisition and sustainment life cycle management of systems (IAW AFI 63-101/20-101).

2.2.6. All centers and subordinate organizations to incorporate Defense Federal Acquisition Regulation Supplement (DFARS) Policy for Item Identification and Valuation requirements into applicable solicitations and contracts resulting in the delivery of tangible personal property to the AF.

2.3. Headquarters AFMC Systems Integration Division (A4N), as division with responsibility for the AF AIT PO will:

2.3.1. Act as the AFMC agent for planning, managing, and executing SNT/IUID on AF owned assets to provide positive identification, visibility, and capturing of supply chain events.

2.3.2. Serve as the lead organization for IUID implementation, SNT/IUID policy, implementation, and project execution within AFMC.

2.3.3. Provide subject matter expertise to HQ USAF, HQ AFMC and AFMC organizations on AIT, IUID, SNT and SIM implementation.

2.3.4. Develop and implement enterprise solutions and applications to advance AF AIT and IUID capabilities.

2.3.5. Receive and validate requirements affecting enterprise-wide IUID implementation to develop budget submissions.

2.3.6. Develop and report SNT/IUID/AIT implementation metrics to HQ USAF/A4.

2.3.7. Prepare and maintain, as needed, Class of Supply based SNT/IUID implementation plans to mark legacy assets.

2.3.8. Host and lead project reviews, working groups and other ad hoc teams governing or working IUID implementation within AFMC.

2.3.9. Develop, maintain and annually validate IUID candidate populations based on HQ USAF direction.

2.3.10. Coordinate with AF MAJCOMs on IUID issues and implementation activities.

2.3.11. Interpret and disseminate DoD and AF IUID policy to AFMC staff offices and centers.

2.3.12. Serve as the lead organization for requirements or proposed changes for logistics information systems in support of IUID system requirements.

2.4. Headquarters AFMC Logistics Readiness Division (A4R) will:

2.4.1. Provide supplemental guidance, as applicable, on IUID implementation and inclusion into functional processes and organizations.

2.5. Headquarters AFMC Lifecycle Management Division (A4U) will:

2.5.1. Develop supplemental guidance on IUID non-recurring engineering of legacy parts, SIM and Product Lifecycle Management (PLM) using IUID.

2.6. Headquarters AFMC Depot Operations Division (A4D) will:

2.6.1. Provide supplemental guidance on IUID implementation and inclusion into depot maintenance processes and organizations.

2.7. Headquarters AFMC Maintenance Division (A4M) will:

2.7.1. Include IUID requirements as needed in policy development.

2.8. Headquarters AFMC Engineering (EN) Directorate will:

2.8.1. Provide subject matter expertise and act as OPR within AFMC for Air Force policy and guidance on systems engineering as it applies to IUID implementation.

2.8.2. Provide supplemental systems engineering guidance on IUID implementation as required.

2.9. Headquarters AFMC Contracting (PK) will:

2.9.1. Provide subject matter expertise and act as OPR within AFMC for policy and guidance on procurement activities as it applies to IUID implementation.

2.9.2. Ensure appropriate IUID related contract clauses are clearly identified in all solicitations, contracts and commercial acquisitions.

2.10. Headquarters AFMC Financial Management (FM) Directorate will:

2.10.1. Provide management and oversight in the use of IUID appropriated program funds.

2.11. Headquarters AFMC Strategic Plans and Programs (A8) Directorate will:

2.11.1. Assist AFMC organizations, as necessary, with IUID POM requirements.

2.12. Headquarters AFMC Inspector General (IG) will:

2.12.1. Provide oversight and inspection of IUID implementation and compliance at AFMC centers.

2.13. Air Force Sustainment Center (AFSC) will:

2.13.1. Serve as the lead organization for marking legacy items flowing through the maintenance complexes that meet requirements for IUID marking and entry into the DoD IUID Registry.

2.13.2. Appoint an OPR, in writing, to lead and coordinate overall SNT/IUID activities within the AFSC.

2.13.3. Appoint an OPR, in writing, as functional representatives for each maintenance complex. The OPRs will act as the representative for IUID program implementation at each maintenance complex coordinating activities for all organization supporting IUID marking of assets flowing through the depot repair process.

2.13.4. Submit planned IUID implementation budget requirements for all asset marking hardware (e.g., hand-held terminals, marking carts, tech order revision, etc.) to AF AIT PO.

2.13.5. Sustain IUID marking for all equipment items on AFSC accountable records.

2.13.6. Report marking and compliance metrics to HQ AFMC concerning IUID implementation.

2.13.7. Incorporate DFARS Policy for Government Furnished Equipment (GFE).

2.13.8. Reference the IUID indicator in FLIS or D043 to determine the need for inclusion of an IUID requirement into acquisition contracts.

2.14. Air Force Life Cycle Management Center (AFLCMC) will:

2.14.1. Serve as the lead organization to provide IUID related supplemental guidance to Program Managers.

2.14.2. Appoint an OPR, in writing, to lead and coordinate overall SNT/IUID activities within the AFLCMC.

2.14.3. Review, advise upon, and (as appropriate) approve suggested IUID related engineering changes and Technical Order changes.

2.14.4. Serve as the lead organization for guidance to Program Managers on IUID issues specific to Operational Safety, Suitability, and Effectiveness (OSS&E) requirements on parts identified for marking, with the exception of NWRM.

2.14.5. Ensure that Program Managers are in compliance with IUID marking efforts and guidance.

2.14.5.1. Ensure that Program Managers are updating IUID implementation plans as defined by AFPAM 63-128 and coordinating with the AIT PO IAW AFI 63-101-20-101 and IAW with procedures as outlined in section 3.6.8.1 of this document.

2.14.6. Serve as command’s lead organization for all Air Force T-1 and T-2 modifications.

2.14.7. Validate and update HQ USAF IUID candidate populations against IUID implementation plans.

2.14.8. Report IUID compliance metrics to include but not limited to contract compliance, IUID marking plan compliance (to include updates), and engineering analysis compliance.

2.14.9. Incorporate DFARS Policy for Government Furnished Equipment (GFE). .

2.14.10. Reference the IUID indicator in FLIS or D043 to determine the need for inclusion of an IUID requirement into acquisition contracts.

2.15. Air Force Test Center will:

2.15.1. Sustain IUID marking for all equipment items on Test Center accountable records.

2.15.2. Reference the IUID indicator in FLIS or D043 to determine the need for inclusion of an IUID requirement into acquisition contracts.

2.16. Air Force Research Laboratory (AFRL) will:

2.16.1. Sustain IUID marking for all equipment items on AFRL accountable records.

2.16.2. Mark existing and acquired assets in accordance with DFARS 252.211-7007.

2.16.3. Reference the IUID indicator in FLIS or D043 to determine the need for inclusion of an IUID requirement into acquisition contracts.

2.17. Air Force Nuclear Weapons Center (AFNWC) will:

2.17.1. Serve as the lead organization for guidance to Program Managers on IUID issues specific to OSS&E requirements on NWRM.

2.17.2. Incorporate applicable DFARS Policy for Government Furnished Equipment (GFE).

2.17.3. Sustain IUID marking for all equipment items on AFNWC accountable records.

2.17.4. Appoint an OPR, in writing, to lead and coordinate overall SNT/IUID activities within the AFNWC.

2.17.5. Reference the IUID indicator in FLIS or D043 to determine the need for inclusion of an IUID requirement into acquisition contracts.

2.18. Air Force Materiel Command Communications (AFMC/A6) will:

2.18.1. Impact communications requirements to support IUID at AFMC installations.

Chapter 3

ITEM UNIQUE IDENTIFICATION IMPLEMENTATION

3.1. General. Tangible personal property with an item level traceability requirement is a sub-segment of the overall IUID implementation. Since IUID implementation is integral to instituting SIM programs, this instruction will provide direction on implementing IUID for all qualifying items with additional direction on items with item level traceability requirements.

3.1.1. The AF utilizes an IUID candidate identification methodology based on classes of supply. Each class of supply (Class II, Class V, Class VII, Class VIII and Class IX) is analyzed for NSNs which meet OSD marking criteria and provide value to the AF.

3.2. Determining Items Requiring IUID Implementation.

3.2.1. The Office of the Secretary of Defense (OSD) sets forth the policy for Department of Defense (DoD) IUID implementation.

3.2.2. DoD Instruction 8320.04 and DFARS 211.274-2 establishes the criteria that qualify an item for IUID implementation.

3.3. The Federal Logistics Information System (FLIS) IUID Indicator.

3.3.1. The Defense Logistics Agency (DLA)/Defense Logistics Information Service (DLIS) created a field within the FLIS that includes an IUID indicator for inclusion of IUID for all stock listed items. With development of the FLIS indicator, all AF services and agencies will populate the FLIS with IUID requirements for all stock listed items.

3.3.1.1. For all stock listed items, the IUID indicator in FLIS must be referenced to determine IUID marking requirements.

3.3.1.2. If the material manager (IM/ES) determines that a change is required to the IUID indicator, the material manager must send a change request to the PM as well as to the AIT PO. The change request must include justification for the change to the IUID indicator.

3.3.1.3. If the change request is accepted, the PM must update the applicable IUID implementation plan accordingly.

3.3.1.3.1. PMs must ensure that the IUID Indicator is updated for all items included in their implementation plans, and include setting the IUID indicator as part of standard cataloging.

3.3.1.4. If the change request is rejected, the IUID indicator will remain as is.

3.3.1.5. The AIT PO shall coordinate all accepted FLIS updates monthly.

3.3.1.6. Requiring activity must ensure all contracts include IUID when indicated as a requirement in FLIS.

3.4. Determining IUID Requirements for Legacy Assets.

3.4.1. All legacy assets requiring IUID marking shall be annotated in FLIS and D043 with an IUID required indicator.

3.4.2. Each requiring activity shall provide identified legacy marking stock numbers to the AIT PO to coordinate updates to the FLIS and D043 IUID indicators.

3.4.3. Class II IUID asset population shall be based on AF requirements for serialized accountability on the Joint Service General Purpose Mask (M50) and Individual Body Armor (IBA) small arm protective inserts.

3.4.4. Class V asset population targets shall be developed in conjunction with direction from HQ USAF functionals to identify the NSN population.

3.4.5. Class VII IUID legacy asset marking will adhere to requirements as outlined in AFI 23-101.

3.4.6. Class VIII asset populations' targets shall be developed in conjunction with direction from HQ USAF functionals to identify the NSN population.

3.5. Legacy Class IX Marking IUID Requirements

3.5.1. Legacy Class IX IUID asset population shall be based on AF reparable assets that meet all of the following criteria:

3.5.1.1. Depot Level Reparable assets with a positive FLIS or D043 IUID indicator.

3.5.1.2. Depot Level Reparable assets with an active buy or repair requirement for the previous two years, or with a buy or repair requirement that is projected for the next three years.

3.5.1.3. Depot Level Reparable assets with a Source of Supply/Source of Repair of an AF depot.

3.6. Item Marking and Registration Requirements.

3.6.1. The following are general business rules applicable to the assignment of UIIs to items, the physical marking of UIIs on items, and registration of UIIs along with the associated pedigree data.

3.6.1.1. Only one (1) UII will be assigned to each discreet asset and registered in the DoD IUID Registry. The assigned UII must remain with the asset for the life cycle of the asset.

3.6.1.2. UIIs will be assigned, as much as practical, and physically marked on items qualifying for IUID implementation in the possession of the AF for items owned by the Air Force or leased through a capital lease. Reference DoD Instruction 5000.64 for criteria to determine if a lease is a capital lease.

3.6.1.3. To the greatest extent possible, PMs and IMs will ensure items are marked with UIIs before they are issued to field-level units.

3.6.1.4. When a physical mark is not feasible, a virtual UII must be assigned (see paragraph 3.8 for virtual marking guidelines).

3.6.1.4.1. The owning organization of an asset registered with a virtual UII and in the possession of another organization, shall verify and physically mark the UII upon its return.

3.6.1.4.2. Before assigning a UII to a qualifying item without a visible data matrix symbol marked on it, the entity must verify that a UII has not already been assigned using the DoD IUID Registry (**https://iuid.logisticsinformationservice.dla.mil/ControlledLogin.aspx**).

3.6.1.5. Marking schemas may include imprinting, or other distinguishable marks that do not affect form, fit, or function and should be reflected in applicable technical documentation as outlined in paragraph 3.7.5. of this document.

3.6.1.6. If an item is found to have been previously assigned a UII, the item in question should be re-marked with the previously assigned UII using the ECC200 data matrix.

3.6.1.7. For all items meeting IUID criteria, but without an assigned serial number, logistics organizations will assign a serial number using the procedures found in section **5.6.4.3.3** of the AFMAN 23-122.

3.6.1.8. In accordance with guidance outlined within AFI 63-101/20-101, the PM, with support from the PSM, shall plan for and implement IUID using the template and guidance in AFPAM 63-128 and in collaboration with the AFMC AIT PO.

3.6.1.8.1. PMs may coordinate updated implementation plans through the AIT PO via the SOCCER process for plans and must include a summary of changes for the review by the AIT PO.

3.6.1.9. Separate IUID implementation plans are not required for sustainment activities marking legacy assets. Sustainment activities Work Center/Cost Center supervisors for legacy assets shall incorporate planning, programming, budgeting, and execution of IUID implementation requirements for legacy assets into day-to-day workload planning and scheduling. This includes registration in the DoD IUID registry.

3.6.1.10. Critical Safety Item (CSI) serialization and marking requirements shall be defined on the drawing or elsewhere in the Technical Data Package as outlined in paragraph 3.7.5. of this document.

3.7. Engineering Requirements.

3.7.1. Chief Engineers will:

3.7.1.1. Consider all appropriate elements of the OSS&E of a part when making decisions on IUID markings (AFI 63-101/20-101, Integrated Life Cycle Management) such as fatigue, life and operating environment.

3.7.1.2. Be the final decision authority concerning whether applying an IUID constitutes a Class I engineering change for the weapon system (ref. MIL-HDBK-61A, Configuration Management Guidance).

3.7.1.3. Be the decision authority concerning whether the method of adding a UII to a current in-use legacy item/part requires additional technical documentation and additional engineering involvement.

3.7.1.4. Define criteria for weapons systems to identify whether the IUID Engineering Order (EO) is considered a Class I or Class II (e.g., a Chief Engineer may define IUID EOs as Class II unless direct part marked is a CSIs). This definition shall be included in the system's Systems Engineering Plan or equivalent document.

3.7.1.5. Consider methods to ensure readability of the mark during normal operational use (reference MIL-STD-130N, DoD Standard Practice Identification marking of U.S. Military Property). Placement of the mark strongly influences its durability and usefulness.

3.7.1.6. Manage the following items that meet IUID marking criteria for a Class I engineering change, and update all required technical documentation as required.

3.7.1.7. Items on the Critical Safety Item (CSI) list without an existing data plate/label.

3.7.2. **NWRM items.**

3.7.2.1. Assets on the Nuclear Certified Equipment list or Nuclear Certified Item List that are not considered common support equipment and are managed by either the ICBM or a Cruise missile program office.

3.7.3. IUID markings shall:

3.7.3.1. Remain readable throughout the items' normal life cycle. For depot repairable parts, this normal life cycle can be further defined to mean "remain readable through a normal operational usage cycle".

3.7.3.2. Withstand all environmental conditions that the item will be exposed to under normal operation conditions.

3.7.3.3. Provide no detrimental effects on the functional performance, reliability, or durability of the item.

3.7.4. Requirements for Engineering Order IUID EO drawings, for which the USAF is the Current Design Activity (CDA), shall be issued IAW USAF configuration control requirements of the program office. These changes shall be considered a formal component of the drawing package as soon as they are approved and appropriate organizations (e.g., the appropriate JEDMICS organization or contracted data repository) are notified; however, the USAF will not ordinarily revise a drawing simply to include IUID.

3.7.4.1. The EOs shall be incorporated into the drawing with the next drawing revision.

3.7.4.2. The marking location and characteristics for IUID marking shall be included in an EO and/or drawing revision (unless the drawing already includes IUID) for drawings for which both of the following is true: the USAF is the CDA, and the drawing describes parts which meet the requirements for IUID marking.

3.7.4.3. If the USAF is not the CDA, then the EO shall be issued as an Advance Engineering Supplemental Order (AESO) and not incorporated directly into the drawing but will accompany that drawing until the CDA decides to formally incorporate that change into the drawing. IUID EOs do not apply to DOE-designed materiel drawings.

3.7.5. **Requirements for Technical Documentation.**

3.7.5.1. Technical Orders (TOs) shall define the mark application method, the processes required to correctly apply the mark (including surface preparation), the marking location, and mark verification (readability and info). This information shall be consistent with USAF TO policies. Note: Technical Orders shall reflect (but not replace) the intent of engineering data.

3.7.5.2. TOs or drawings must incorporate IUID markings requirements, both for legacy parts/items and any future procurement when the marking method differs. This requirement applies even if new procurement is made using a legacy design.

3.7.5.3. If a marking process exists in multiple TOs (e.g., one for cleaning procedures, one for application procedures, and one for mark location) the Process Order may be used to consolidate this information into one format for depot mechanics.

3.7.5.4. Process Orders shall describe the use of site-specific marking equipment (e.g., the dial settings on a laser marking cart required to achieve TO-specified power and exposure levels for a particular part).

3.7.5.5. All Reparable assets (Class IX) that require IUID marking and where the Air Force is the Current Design Authority (CDA), engineering data and technical orders shall be revised.

3.7.5.6. If the USAF is not the CDA and engineering data and technical orders are required for marking, then the development of a drawing revision (and/or other engineering source data) incorporating the IUID AESO shall only be performed by the vendor (typically Original Equipment Manufacturer, (OEM)) who is the CDA. **Note that these agreements are typically specific to each program office; therefore, each program office is responsible for managing this effort, securing the appropriate funding, negotiating technical differences in the selection of marking techniques and locations, and setting schedules which meet the program office's needs.**

3.7.5.7. If items cannot be physically marked or tagged due to a lack of marking space or because marking or tagging would have a deleterious effect on the item, then the marking method shall be in accordance with MIL-STD-130N "Bagged or Tagged" procedures. The "Bagged or Tagged" marking procedure does not drive additional technical data updates or technical order changes.

3.7.6. **Technical Order Changes.**

3.7.6.1. If an engineering data change is processed to include IUID on a component, subcomponent, assembly, or sub-assembly, and if a TO exists which specifies the overhaul, remanufacture, repair (or assembly) of that part, the TO shall be updated to specify the processes and location for marking the item by IUID.

3.7.6.2. In the preceding paragraph, the IUID marking method shall (in detail or by reference to other TOs) include all inspection procedures, part surface preparation procedures, all marking application procedures, and (unless marked with direct part marking) the data label, data plate, or IUID label part number (e.g., 200945085-XXX).

3.7.6.3. The marking location specified in the TO shall be specific to the part and shall include sufficient detail to reflect the location and tolerances specified in the EO. In the case of multiple parts with the same configuration (e.g., multiple avionics boxes with the same top level assembly), a common figure with multiple references may be used.

3.7.6.4. Program offices may delay the IUID updates to TOs that are not intended for AFMC depot use. This planned delay requires the program office to provide a detailed timeline for updates to all impacted TOs, the correlation of the updates with planned marking processes by non-AFMC personnel (e.g., by TCTO or by intermediate repair

facilities), and a schedule to update the TOs no later than the end of FY20. Independent of the details of that phased plan, the TO shall be updated after repeated (no more than three) requests are received from maintenance for technical assistance to mark the part(s) for which non-depot repair procedures exist in that TO.

3.7.6.5. If the Illustrated Parts Breakdown (IPB) is contained in a separate -4 (i.e., not in the repair manual), the IPB is not to be used to specify the location or the method for marking a part with IUID. If applying IUID to a part changes a part number in the IPB (e.g., if a new data plate is specified which differs from the existing data plate called out in the IPB), the IPB shall be updated to show IUID; otherwise, the IPB does not require an update to show IUID label location or part number. The nuclear enterprise will adhere to NWC IPB requirements.

3.7.6.6. TO updates that are required because of IUID shall be implemented IAW standard TO 00-5-1 and TO 00-5-3 procedures, except as noted below:

3.7.6.7. Time Compliance Technical Orders (TCTOs) may be used to specify marking procedures on legacy parts when determined appropriate by the program office and Chief Engineer. If the TCTO is a routine TCTO, it should give full instructions for marking and should include appropriate figures. IUID marking should be considered for inclusion in a TCTO when inclusion of IUID will assist with TCTO tracking or when it is required for the next higher assembly.

3.7.6.8. IUID Engineering Requirements for Engineering Orders (EOs) and Drawing Changes for legacy equipment/end-items. **NOTE**: This does not include Class IX items

3.7.6.9. Engineering change requests and drawing revisions shall not be required when affixing labels with IUID markings to legacy equipment/principle items if the label does not impact characteristics necessary to ensure operational safety, suitability, and effectiveness.

3.7.6.10. If sufficient space exists on the OEM or Air Force manufactured data plate, an IUID label or 2D data matrix may be applied if it does not obstruct existing information on the data plate. The IUID label or 2D data matrix may be applied IAW methods outlined in MIL-STD- 130N.

3.7.6.11. Equipment specialists should elevate any decision to Program Management for IUID placement when the item has no surface area that meets the requirements of MIL-STD-130N.

3.7.6.12. Retrofitted IUID 2D matrices on a legacy item must be able to withstand normal operating conditions of the item when in use and for the expected duration of time between scheduled maintenance activities.

3.7.6.13. AFNWC Nuclear Weapons Logistics Division (NCL) will determine the need for changes and take necessary action for TOs for DOE-designed materiel within the Joint Nuclear Weapons Publication System (JNWPS).

3.8. Use of Virtual UIIs.

3.8.1. Virtual UIIs are not authorized as a substitute for physical marking when physical marking is feasible unless authorized by applicable DoD policy and MIL-STD-130N direction.

3.8.2. Virtual UIIs may be used to register government furnished equipment if authorized by applicable DoD policy.

3.8.3. Virtual UIIs may be used to register Class VII military equipment that has not already been registered if authorized by applicable DoD policy.

3.8.4. The use of virtual UIIs requires documented traceability between the specific part and the assigned virtual UII.

3.9. New Procurement Items.

3.9.1. For acquisition contracts procuring a new weapon system or incremental modification to current weapon systems, the Program Manager will implement IUID requirements in support of SIM in accordance with direction contained in AFI 63-101/20-101.

3.9.2. Program Managers will work with Item Managers (IM) and Equipment Specialists (ES) to ensure that acquisition contracts include IUID when required by the program IUID implementation plans and/or the IUID indicator in FLIS or D043.

3.9.3. For acquisition of spares, the procuring activity will implement IUID requirements in support of SIM.

3.9.4. In accordance with applicable DoD policy, the contractor shall submit Unique Item Identifiers (UIIs), or other DoD recognized unique identification equivalents, and to provide the IUID data for items that are delivered to the Department under a DoD contract.

3.9.5. For all new acquisitions, Data Item Descriptions (DIDs) (DI-MGMT-81804 and DI-MGMT-81803) shall be identified within each contract to hold contractors accountable for IUID marking and activities and verification of data, according to MIL-STD-130N.

3.9.6. All acquisition Statements of Work must contain Data Item Description language that explains the responsibilities of the contractor as it relates to IUID and MIL-STD-130N.

3.9.7. Any asset that is marked as part of an acquisition event (to include spares procurement) must be registered in the DoD IUID Registry via Wide Area Work Flow (WAWF).

3.9.8. If IUID is required in the contract, the vendor has not completed their contract requirements until the vendor registers the IUID data in WAWF.

3.10. Government Furnished Property (GFP) and Government Furnished Equipment (GFE).

3.10.1. In accordance with applicable DFARS policy, the custodial contractor shall report UIIs or other DoD recognized unique identification equivalents for all GFP that meets IUID policy criteria.

3.10.2. In addition to mandatory GFP data submissions, submission of other GFP data to the DoD IUID Registry is encouraged for contracts with GFP awarded.

3.10.3. Program and item managers shall apply IUID policy to existing personal property in inventory and operational use, including items manufactured by organic DoD depots. They must also record the IUID data in the DoD IUID Registry for those items that meet the criteria for IUID.

3.10.4. As stated in DoD Instruction 8320.04, IUID requirements apply to defense security cooperation agreements, otherwise known as foreign military sales (FMS). Use direction contained in Paragraph 3.6 (of this Instruction) and its subsections to implement IUID to contracts providing acquisition, procurement and/or logistics support to cases.

3.11. Intensive Item Management.

3.11.1. Based on approved technical data and engineering analysis, Nuclear Weapons Related Material (NWRM) will be marked with a UII IAW DoDI 8320.04, Item Unique Identification (IUID) Standards for Tangible Personal Property; AFI 63-101/20-101, Acquisition and Sustainment Life Cycle Management and Methods and Procedures Technical Order (MPTO) TO 00-25-260, Asset Marking and Tracking Item Unique Identification (IUID) Marking Procedures.

3.11.2. IAW AFI 20-110, based on approved technical data and engineering analysis, NWRM must be marked with a UII IAW DoDI 8320.04, Item Unique Identification (IUID) Standards for Tangible Personal Property; AFI 63-101/20-101, Acquisition and Sustainment Life Cycle Management and Methods and Procedures Technical Order (MPTO) TO 00-25-260, Asset Marking and Tracking Item Unique Identification (IUID) Marking Procedures.

3.12. Contract Repair – Performance Work Statement Guidelines.

3.12.1. The Performance Work Statement (PWS) shall include specification requirements for IUID marking. These will be contained in the applicable Air Force/OEM technical order, Specific Work Requirements appendix, approved engineering drawing, or a Government provided Engineering order as applicable. PWSs for DOE-designed materiel undergoing repair may exclude contractors from IUID requirements. Implementation shall be determined by the Program Manager once item(s) are re-delivered to the USAF.

3.12.2. For items that do not have IUID marking specifications, the PWS shall have requirements for the contractor to develop the marking specifications in accordance with the latest version of MIL-STD-130N.

3.12.3. IUID markings are required for all end-items and subcomponents to the end-item specifically identified in the applicable Air Force/OEM technical order, Specific Work Requirements appendix, approved engineering drawing, or a Government provided Engineering order.

3.12.4. IUID markings currently in place on items undergoing repair shall be protected from damage or removal during repair. Ensure 2-D matrix IUID markings are readable per TO 00-25-260. Should IUID marking be rendered unreadable during repair, the contractor shall notify the PCO/ACO for determination.

3.12.5. IUID markings which will be potentially destroyed during repair due to technical direction (i.e. paint removal, sand blasting, etc.) shall be recorded prior to maintenance action and replaced with the same UII as part of the repair action.

3.12.6. The contractor shall submit the required and applicable data for legacy items to the DoD IUID Registry per the data submission procedures at **http://www.acq.osd.mil/dpap/pdi/uid/data_submission_information.html**.

3.13. IUID Lifecycle Events Reporting.

3.13.1. An appropriate lifecycle event transaction will be sent to the DoD IUID Registry when a uniquely identified item is abandoned, consumed, destroyed by accident or combat operations, donated, expended, scrapped, sold, or stolen (see the full list of lifecycle events in the IUID Registry User Guide). As part of their functional responsibilities, item managers will initiate actions resulting in AIS processing and transmitting these lifecycle event transactions.

3.14. Use of Item Markings to Enhance SIM.

3.14.1. To the greatest extent practicable, manual data entry will not be used to enter item identification information into AFMC logistics information systems.

3.14.2. AIT will be used to scan and create logistics supply chain event transactions associated with individual items using the UII encoded into the data matrix symbol.

3.14.3. Logistics supply chain event transactions will be used to populate AFMC logistics information systems with the UII as the key data element to which all other data will be associated.

3.14.4. If an item does not have a UII assigned, then the manufacturer's CAGE code along with the part number and serial number assigned by the manufacturer will be used to identify an item in logistics information systems.

3.14.4.1. The key data element for an item without an assigned UII is the manufacturer's serial number. This serial number must be unique with respect to all other instances of items assigned the same part and cage numbers.

3.14.5. Data entered into AFMC logistics information systems shall use the exact alpha-numeric characters used by the manufacturer to identify the part number and serial number of an item.

3.14.6. AFMC logistics information systems must be capable of accepting the UII (when determined to have an IUID requirement) and/or the exact alpha-numeric characters used by manufacturer to identify an item without changing the data in any fashion (e.g. adding or removing leading zeros).

3.14.7. If an item does not have a serial number assigned by the manufacturer, a serial number will be assigned and physically marked on the item, using the procedures found in section **5.6.4.3.3** of the AFMAN 23-122. The serial number assigned by the AFMC organization will be unique with respect to all other instances of items assigned the same part and cage numbers.

3.14.8. Data associated to individual items using the UII will be used to improve materiel management practices throughout AFMC.

3.14.9. UII will enhance Joint Total Asset Visibility (JTAV) by providing unique serialization of assets across an increasing number of stock numbers.

3.14.10. The Air Force initially focused JTAV initiatives on high value (weapon systems, vehicles, support equipment) and highly controlled (NWRM) material. Continued UII marking of assets and inventory will enable increased control and enhanced visibility of

AFMC's controlled inventory items, repairable items, mission critical assets, classified materials, pilferable assets, information technology equipment, and small arms.

3.14.11. Using AIT to enable JTAV will allow for better asset management throughout the AFMC supply chain by ensuring the consistent marking and tracking of all assets.

3.14.12. IUID enabled SIM will allow AFMC to capture asset related data with minimal or no manual data entry.

3.14.13. Condition-Based Maintenance (CBM) can be defined as a set of maintenance processes and capabilities derived from real-time assessment of weapon system condition obtained from embedded sensors and/or external tests and measurements using portable equipment. The goal of CBM is to perform maintenance only upon evidence of need.

3.14.13.1. CBM+ expands on these basic concepts, encompassing other technologies, processes, and procedures that enable improved maintenance and logistics practices. These future and existing technologies, processes, and procedures will be addressed during the capabilities planning, acquisition, sustainment, and disposal of a weapon system.

3.14.13.2. AIT enabled SIM shall be leveraged to achieve CBT+ Implementation within AFMC.

3.14.14. Increased efficiency and capability will improve PLM through the use of AIT and IUID enabled SIM. Efficiencies include reduced manpower costs, increased accuracy, and reduced time to prepare documentation for inventories, issue and subsequent cyclic issue/re-issue of sensitive items such as weapons. All items meeting the criteria, as stated in MIL-STD-130N, shall be marked with a UII.

3.14.14.1. Using UII for serial item management will result in more timely, accurate, reliable and actionable information that can be obtained to improve maintenance and materiel management. The benefits derive from harvesting the serial item data through IUID and utilizing the data to make PLM programs more effective.

3.14.14.2. By implementing the necessary management information system changes and business process improvements to capture, integrate, and intelligently utilize maintenance and operating data recorded primarily through maintenance transactions, AFMC can achieve significant reliability, maintainability, and materiel management improvements.

3.14.14.3. UII will be a key enabler to achieving Office of the Secretary of Defense (OSD) Comptroller mandated Financial Improvement and Audit Readiness (FIAR) compliance by 2016. UII will be the Individual Item Identifier data element used to support financial statement audits for DoD Mission Critical Assets. Mission Critical Assets include Military Equipment (ME) (e.g., ships, aircraft, combat vehicles), Real Property (RP) (e.g., land, buildings, structures, utilities), Inventory (e.g., rations, supplies, spare parts, fuel), Operation Materials and Supplies (OM&S) (e.g., ammunition, munitions, missiles), and Support Equipment(e.g., materiel handling equipment, training equipment, special tooling and test equipment). UII will support asset specific acquisition cost, depreciated value, and inventory valuation throughout the 'Acquire to Retire' asset lifecycle management process, which is required to satisfy financial auditing requirements.

3.14.15. DoD IUID Registry will impact efforts to implement FIAR plan and achieve CFO compliance.

3.14.15.1. DoD Instruction 8320.04 establishes the DoD IUID Registry as the authoritative source of Government unit acquisition cost for items with UII acquired after January 1, 2004, and for UII pedigree data established at delivery as defined by the DFARS 252.211-7003.

3.14.15.2. AFMC IT systems that identify acquisition cost for uniquely identified items procured on/after 1 January 2004 must correspond to data contained within DoD IUID Registry.

3.14.15.3. FIAR Guidance states UIIs will be used to associate physical asset to data records in accountable property system of records for military equipment, general equipment, serially managed inventory, and serially managed operating materials & supplies.

3.14.15.4. To effectively support SIM and FIAR, systems that identify transactions to individual assets via an asset identifier need to be modernized to accommodate UIIs.

3.14.16. UII will enable Warranty Tracking for assets procured from, and repaired by, commercial suppliers. Uniquely identifying warranted assets will allow item managers and maintenance personnel to identify items covered by warranty preventing unnecessary organic maintenance actions. In addition, assets with a UII can be tracked according to the terms of the specific procurement or repair contract to ensure warranties terms are not violated, thereby nullifying the supplier warranty. Ensuring warranted items are repaired by the responsible supplier in accordance with the terms of the procurement or repair contract will reduce organic repair of warranted assets, reduce the overall lifecycle cost to the AFMC for those assets, and provide data used to justify the additional costs of a warranty for future procurements

3.14.16.1. Items under warranty must be properly marked as to their warranty status and labeled with information necessary to track and administer the warranty on that item. Guidance for marking items, including warranted items, is contained in MIL-STD-130N, Identification Marking of US Military Property. Warranty marking on unit pack containers shall be IAW MIL-STD-129, Military Marking for Shipment and Storage. These standards are sufficiently flexible to allow tailoring to individual programs.

3.14.16.2. For commercial items entering the military distribution system, the Contractor is required to mark the packaging in accordance with MIL-STD-129, including any warranty marking.

3.14.16.3. IUID will also assist the Repair Network Integration (RNI) initiative by providing detailed pedigree data for items within the maintenance network. IUID data capture in the repair network will allow more specific analysis at the item level and allow Product Group Managers (PGM) greater visibility of commodity condition information based on item type and OEM. The additional data provided by IUID and AIT data collection processes would enhance any Reliability Centered Maintenance (RCM) strategy by providing timely, complete, and accurate item-level data.

3.15. Warranted asset marking guidelines.

3.15.1. Item marking requirements in the contract are normally stated in Part I--The Schedule while container marking is addressed in Section C—Statement of Work and Section D--Packaging and Marking.

3.15.2. The Contractor is responsible for applying warranty markings.

3.15.3. Warranted hardware, technical data/drawings, packaging instructions, and software shall each be properly identified as warranted items.

3.15.4. Desired Label Characteristics and Label Locations shall align with the item identification requirements in MIL-STD-130N and packaging marking IAW MIL-STD-129.

3.15.5. SIM, using IUID, will improve weapon system reliability and maintainability by providing the capability to uniquely track, monitor, and manage repairable assets across the maintenance enterprise. Uniquely identified repairable assets will retain maintenance, repair, and configuration histories for each UII allowing item managers, engineers, and maintenance personnel to identify 'bad actor' assets continually not meeting reliability standards. Removing 'bad actor' assets from the repairable asset pool, and providing reliable replacements, will decrease maintenance removals and asset repair actions thereby increasing weapon system reliability and maintenance capacity.

3.16. IUID enabled SIM programs should be designed and operated to optimize end item availability while minimizing support costs by:

3.16.1. Providing maintenance technicians and decision maker's rapid access to comprehensive and accurate information.

3.16.2. Improving the efficiency of maintenance and related processes, e.g., eliminating manually-supported paperwork, reducing job times, enhancing maintenance task and personnel scheduling, and shrinking inventories.

3.16.3. Reducing maintenance requirements through better configuration management and item/select population life-cycle history information.

3.16.4. Facilitating tracking of specific item performance to support reliability analysis, warranty claims, and repair performance evaluation.

3.16.4.1. IAW DoDI 4151.19, Military Departments and Defense Agencies shall identify populations of select uniquely identified items to track and manage within their maintenance SIM programs.

3.16.5. AFMC should utilize SNT/UID technology through AIT for logistics and for improving the efficiency of maintenance and related processes, e.g., eliminating manually-supported paperwork, reducing job times, enhancing maintenance task and personnel scheduling, and shrinking inventories.

3.16.5.1. As resources become available, existing maintenance AISs shall be enhanced or modified to support the tenets of SIM programs. Effective SIM is a result of each service's management practices.

3.16.6. Leveraging IUID enabled SIM is critical to achieve the success of High Velocity Maintenance (HVM) solution to significantly accelerate the speed and effectiveness of depot maintenance activities. The result is improved availability and higher quality repair.

3.16.7. IUID will increase Inventory Accuracy for all AFMC assets by providing a unique reference identifier for each asset processed during shipment, issue, and receipt. Transacting assets using both the stock number and UII data elements will decrease the number of discrepant materiel management transactions by forcing materiel management personnel to validate the UII for each item in the transaction. Unlike serial numbers, UIIs will be unique across the AFMC, eliminating the possibility of shipping, issuing, or receiving a serialized asset under an incorrect stock number. (Ref. MIL-STD-129 – Military Marking for Shipment and Storage)

3.16.8. UIIs will provide the unique serial number data element required by future state AFMC logistics systems. Ensuring the UII is unique in the legacy system environment will facilitate data conversion during system modernization and/or replacement and reduce data cleansing/preparation activities.

3.17. Marking Waiver Process.

3.17.1. For Class VII items that cannot be marked, waiver requests must meet the exception criteria and routed through the respective command. Ultimately, the request will flow through to the AIT PO at AFMC.

3.17.1.1. For all other classes of supply, a waiver request must be submitted directly to the AIT PO. The AIT PO will work with the Program Manager to manage each request. See Attachment 5 for an example marking waiver request.

3.17.1.2. Physical application of the UII will follow MIL-STD-130N, Identification Marking of U.S. Military Property.

3.17.1.3. Where engineering analysis determines physical application of a UII would destroy the form, fit, or function of an item, an alternate method to uniquely identify the item will be used (see section 3.8 for the use of virtual marking methods).

3.17.1.4. If a program office identifies an IUID engineering strategy which assures OSS&E and reduces costs, the program office may submit to HQ AFMC/A4 a waiver to the paragraph(s) which would otherwise prohibit that strategy; however, the waiver request shall include a documented engineering plan and lifecycle cost-benefit-analysis compared to the use of the guidance as written.

LORNA B. ESTEP, SES
Deputy Director Logistics

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

DoD 4100.39-M, *Federal Logistics Information System (FLIS) Procedures Manual*, 1 October 2010

DoDI 4151.19, *Serialized Item Management (SIM) for Materiel Maintenance*, 26 December 2006

DoDI 5000.64, *Accountability and Management of DOD-Owned Equipment and Other Accountable Property*, 11 May 2011

DoDI 8320.04, *Item Unique Identification (IUID) Standards for Tangible Personal Property*, 16 June 2008

AFI 63-101/20-101, *Integrated Life Cycle Management*, 7 March 2013

AFI 20-110, *Nuclear Weapons-Related Materiel Management*, 18 February 2011

AFI 63-1201, *Life Cycle Systems Engineering*, 23 July 2007

MIL-STD-130N Change 1, *DoD Standard Practice Identification marking of U.S. Military Property*, 16 November 2012

The Duncan Hunter National Defense Authorization Act of Fiscal Year 2009 (P.L. 110-417, Title VIII, Subtitle B, Section 815, Preservation and Storage of Tooling for Major Defense Acquisition Programs.

Adopted Forms

AF Form 847, *Recommendation for Change of Publication*

Abbreviations and Acronyms

AF—Air Force

AFLCMC—Air Force Life Cycle Management Center

AFNWC—Air Force Nuclear Weapon Center

AFMAN—Air Force Manual

AFMC—Air Force Materiel Command

AFPAM—Air Force Pamphlet

AFRL—Air Force Research Laboratory

AFSC—Air Force Sustainment Center

AIS—Automated Information System

AIT—Automatic Identification Technology

CBM—Condition Based Maintenance

CDA—Current Design Activity

CFO—Chief Financial Officers

CSI—Critical Safety Item

D&F—Determinations and Findings

DID—Data Item Description

DLA—Defense Logistics Agency

DLIS—Defense Logistics Information Service

DFARS—Defense Federal Acquisition Regulation Supplement

EN—Engineering

EO—Engineering Order

ES—Equipment Specialist

FIAR—Financial Improvement and Audit Readiness

FLIS—Federal Logistics Information System

FM—Financial Management

FMS—Foreign Military Sales

GFE—Government Furnished Equipment

GFP—Government Furnished

HVM—High Velocity Maintenance

IAW—In Accordance With

IBA—Individual Body Armor

ICBM—Intercontinental Ballistic Missile

IG—Inspector General

IM—Item Manager

ISO/IEC—International Organization for Standardization/International Electrotechnical Commission

IPB—Illustrated Parts Breakdown

IUID—Item Unique Identification

JNWPS—Joint Nuclear Weapons Publication System

JTAV—Joint Total Asset Visibility

MIL—STD —Military Standard

MPTO—Methods and Procedures Technical Order

NSN—National Stock Number

NWRM—Nuclear Weapons Related Material

OEM—Original Equipment Manufacturer

OM&S—Operation Materials and Supplies

OPR—Office of Primary Responsibility

OSD—Office of the Secretary of Defense

OSS&E—Operational Safety, Suitability, and Effectiveness

PLM—Product Lifecycle Management

PM—Project Manager

POM—Program Objective Memorandum

PWS—Performance Work Statement

RCM—Reliability Centered Maintenance

RNI—Repair Network Integration

RDS—Records Disposition Schedule

SIM—Serialized Item Management

SNT—Serial Number Tracking

TCTO—Time Compliance Technical Orders

TO—Technical Order

UII—Unique Item Identifier

WAWF—Wide Area Work Flow

Terms

Class II—Includes clothing, individual equipment, tentage, organizational tool sets and kits, hand tools, unclassified maps, administrative and housekeeping supplies and equipment.

Class V—Ammunition of all types, bombs, explosives, mines, fuses, detonators, pyrotechnics, missiles, rockets, propellants, and associated items.

Class VII— Major end items such as launchers, tanks, mobile machine shops, and vehicles.

Class IX— Repair parts and components to include kits, assemblies, and subassemblies (repairable or non-repairable) required for maintenance support of all equipment.

Construct #1— A series of alphanumeric codes by the issuing agency (IAC-this is assigned by the registration authority of ISO/IEC 15459-2, registration procedures in this case is the NEN-Nederlands Normalisatie-instituut, (EID-enterprise identifier is a code uniquely assigned to an enterprise by a registered issuing agency), and the serial number, which must be unique within the enterprise identifier.

Construct #2— A combination of the issuing agency code (IAC), enterprise identifier (EID), the original part, lot or batch number, and the serial number. The original part number is a combination of numbers and letters assigned by the enterprise at asset creation to a class of items with the same form, fit, function, and interface. The lot/batch number is an identifying number assigned by the enterprise to a designated group of items, usually referred to as either a lot or a batch, all of which were manufactured under identical conditions.

Contractor and Government Entity (CAGE) Code— A five (5) position alphanumeric code with a numeric value in the first and last positions, excluding the letters I and O assigned to U.S. organizations which manufacture and/or control the design of items supplied to a Government Military or Civil Agency or assigned to U.S. organizations, primarily for identifying contractors in the mechanical interchange of data required by MILSCAP and Service/Agency automatic data processing systems. The CAGE code is a type of Enterprise Identifier. (Ref. MIL-STD 130 or DoD 4100.39-M Volume 7)

Controlled Inventory—Those items that are designated as having characteristics that require that they be identified, accounted for, segregated or handled in a special manner to ensure their protection and integrity. Controlled inventory stock includes classified, sensitive or pilferable items. Information is extracted from DOD Guide to Uniquely Identifying Items Assuring Valuation, Accountability and Control of Government Property.

Design— A complete definition of the physical (and functional) characteristics of a component or series of components.

DOD IUID Registry— UIIs are stored in comprehensive IUID registry, which allows easy access to information such as acquisition cost and life-cycle data. The IUID registry is maintained by the Defense Logistics Information Service (DLIS). The IUID registry of items marked with UIIs provides accurate and accessible unique identification and pedigree information about these items. This information is used to make acquisition, repair and deployment of items faster and more efficient.

Enterprise Identifier— A unique identifier used to distinguish one activity or organization from another activity or organization. An enterprise identifier code is uniquely assigned to an activity by an issuing agency registered in accordance with procedures outlined in ISO/IEC 15459-2. An enterprise may be an entity such as a design activity, manufacturer, supplier, depot, and program management office or a third party.

Government Furnished Equipment (GFE)— Property that is acquired directly by the government and then made available to the contractor for use.

Government Furnished Property (GFP)— Property in the possession of, or directly acquired by, the Government and subsequently furnished to the contractor for performance of a contract. Government furnished property includes, but is not limited to, spares and property furnished for repair, maintenance, overhaul, or modification. Government-furnished property also includes contractor acquired property if the contractor-acquired property is a deliverable under a cost contract when accepted by the Government for continued use under the contract.

Issuing Agency— An organization responsible for assigning a non-repeatable identifier to an enterprise [i.e., Dun & Bradstreet's Data Universal Numbering System (DUNS) Number, Uniform Code Council (UCC)/EAN International (EAN) Company Prefix or Allied Committee 135 CAGE Code].

Item— A single hardware article or a single unit formed by a grouping of subassemblies, components, or constituent parts. (Ref. DFARS **252.211-7007** or MIL-STD-130N)

Item Unique Identification (IUID)— A system of marking and valuing items delivered to the DoD that will enhance logistics, contracting, and financial business transactions supporting the United States and coalition troops. (Ref. DFARS **252.211-7007**)

IUID Equivalent— Unique identification methods in commercial use have been recognized by DoD as IUID equivalents (Ref. MIL-STD-130N):

Legacy Items—Items which are owned by the USAF that qualify for IUID implementation, but have not been assigned and/or marked with a UII, and have not been entered into the DoD IUID Registry. Legacy items may be of any condition code (e.g., serviceable, reparable, engineering evaluation).

Legacy Part— Any part which is described by a legacy design, for which at least one item (instance of the part) is already owned by the USAF, and which meets the DoD IUID marking criteria. The term "legacy part" is inclusive of all parts which meet this definition, regardless of the parts' repair/overhaul/condemnation or other support strategy.

Mission Essential— Resources that directly bear on the functions, initiatives, and operations of Air Force agencies that personnel must have on hand to carry out the installation mission effectively.

Non—Recurring Engineering—Refers to the one-time cost to research, develop, design and test a new product.

Part— One item, or two or more items joined together, that is not normally subject to disassembly without destruction or impairment of designed use (e.g., transistor, composition resistor, screw, transformer, and gear). (Ref. MIL-STD-130Nor ASME Y14.100).

Part or identifying number (PIN or P/N)—The identifier assigned by the original design activity, or by the controlling nationally recognized standard, that uniquely identifies (relative to that design activity) a specific item. (Ref. MIL-STD-130N or ASME Y14.100).

Program Manager—Designated individual with responsibility for and authority to accomplish program objectives for development, production, and sustainment to meet the user's operational needs.

Serial Number (S/N)— An assigned designation that provides a means of identifying a specific individual item. (Ref. MIL-STD-130N)

Serially Managed—An item used and designated by DOD or an IM to be uniquely tracked, controlled or managed in maintenance, repair and/or supply by means of its serial number. The management of uniquely identified reparable assets, selected consumables, engines, equipment and other designated property. Includes items such as reparable assets down to and including sub-component reparable unit level; life-limited, time-controlled or items requiring records (e.g., logbooks, aeronautical equipment service records, etc.); and items that require technical directive tracking at the part level

Tangible Personal Property—Property characterized by a physical presence and the ability to be moved as opposed to intangible personal property such as data, software or patents and real property such as land, buildings, and fixtures attached to buildings.

Unique Item Identifier (UII)—A globally unique and unambiguous identifier that distinguishes an item from all other like and unlike items. The UII is a concatenated value that is derived from a UII data set of one or more data elements. (Ref. MIL-STD-130N)

UII Data Set—A set of one or more data elements marked on an item from which the concatenated UII can be derived. The UII types, limited to 50 characters, are as follows:

Attachment 2

STANDARDIZATION OF USAF IUID DATA MATRICES

A2.1. Intent. Standardization of AFMC IUID Data Matrices is required to meet Office of the Secretary of Defense (OSD) guidance, to guarantee uniqueness of each UII, and to expedite marking processes.

A2.2. Serialization. An item's serial number is intended to uniquely identify the item as different from any other item in inventory. As defined below, AFMC will only use two serial number schemes (reference "Department of Defense Guide to Uniquely Identifying Items: Assuring Valuation, Accountability and Control of Government Property, Version 2.0, October 1, 2008").

A2.2.1. Part-Based Serial Numbers: Prior to IUID, serial numbers were only unique when associated with a part number. Within AFMC, the Part S/N generally will not change as the part undergoes configuration changes; however, it may need to be modified if it is found not to be unique, or if multiple parts of different configurations are modified to a new common configuration part.

A2.2.2. Construct #1 Serial Numbers: The serial number used in Construct #1 is guaranteed unique when used in conjunction with the Enterprise Identifier (EID) of the marking activity. The resulting concatenated number has the advantages of being independent of P/N changes and independent of duplications in prior serialization. **Note:** Any item with a part-based S/N (typically that assigned by the OEM during manufacturing) will retain that part-based S/N after the assigning of a Construct #1 UII. The two will be related through the Air Force Serial Number Tracking Metrics Analysis Tool (SNT MAT) and the DoD IUID Registry.

A2.3. Requirement. The following specify the required IUID data matrix formats:

A2.3.1. Re-Marking: Re-marking refers to the application of a replacement label or direct mark with the 2D matrix encoding the UII previously assigned to the item. Situations where a replacement label or direct mark might be required include, but are not limited to, the original data matrix containing the UII has become unreadable or been removed. Any re-marking shall begin with a revalidation of the uniqueness of the original UII and of the association of that UII with the item to be re-marked. Any re-marking of existing items which were previously marked (with a UII recorded in the DoD IUID Registry) shall be re-marked with the same UII to maintain continuity of the record. The data identifier 25S shall be used for the syntax of the replacement label or direct mark. Lifecycle trending and tracking of each item requires that each UII be permanently assigned to an item and that the UII-item one-to-one relationship never be broken.

A2.3.2. Marking of Legacy Items: The Construct #1 (18S) data identifier from international standard (ISO15418) will be used to create all new UIIs (as of the date of this publication) applied to AFMC-marked (e.g., organically marked) legacy items.

A2.3.2.1. The following legacy items will not be marked with Construct #1:

A2.3.2.1.1. Re-Marking of items which were not previously marked with Construct #1, except for the 25S construct.

A2.3.2.1.2. If a part's IUID engineering instructions are controlled by a vendor (OEM) drawing which specifies a data identifier other than 18S, then the items of that part shall be assigned a UII according to that drawing. However, this case only applies if all of the following three conditions are true: (a) the USAF did not fund the drawing modification which specified IUID implementation; (b) the USAF has a written agreement with the vendor that explicitly states that the vendor accepts responsibility for the uniqueness of UIIs created by the USAF under the agreement, that specifies the part numbers covered in the agreement, and in which the vendor explicitly allows the USAF to use the vendor's enterprise identifier in the marking of those parts; and (c) the USAF and the vendor have an established method to prevent the potential duplication of marks. Program offices may submit to HQ AFMC/A4 waiver requests for designs completed prior to the publication of this guidance.

A2.3.2.2. The USAF organization marking the part is typically the organization responsible for assuring the uniqueness of the concatenated Construct #1 UII. Under some circumstances (e.g., nuclear related items), the organization guaranteeing uniqueness of the concatenated Construct #1 UII may be a different organization; in those cases, each organization involved must establish appropriate operating procedures. All organizations guaranteeing the uniqueness of concatenated Construct #1 UIIs shall use the AFMC-wide IUID information technology system to do so once that system is available.

A2.3.2.3. US Air Force ordinance shall comply with the IUID format selected by the Joint Ordinance Commander's Group.

A2.3.3. Marking of Non-Legacy Items: All new items which meet the criteria for IUID marking shall be marked using the UII format specified in the design for that part, by the contract (if the new part is being made by a commercial entity), or by the guidance of the producing service (if the new part is being made for the USAF by the Army or Navy). **Note:** All newly produced parts will be marked using the enterprise identifier (CAGE) of the activity that produced the part, except as described in A2.3.4.3.

A2.3.3.1. New items produced (manufactured) by the USAF shall be marked using the 18S data identifier if allowed by the part's drawing. When the drawing does not allow 18S and the USAF is the CDA, then an EO shall be made to allow marking with 18S. When the drawing does not allow 18S and the USAF is not the CDA, then USAF shall mark the item as specified in the controlling drawing; however, the mark must use the USAF producing activity's enterprise identifier. When the drawing does not allow 18S and it does not allow the use of the USAF producing activity's enterprise identifier then normal waiver/deviation/EO procedures shall be used to mark the items using the 18S data identifier.

A2.3.3.2. For new parts which are produced by a commercial vendor (except in cases described in A3.3.4.3), IUID shall be marked IAW DFARS 252.211-7003, Item Identification and Valuation. If any part of this policy is in conflict with DFARS 252.211-7003, then DFARS 252.211-7003 shall be used in lieu of this guidance. If the USAF contracts for a new item and if the vendor identifies a conflict between DFARS 252.211-7003(c)(4) and the format of the Unique Item Identifier specified in the item's

drawing, then it is the responsibility of the USAF Acquisition Team to process EOs, AESOs, or waivers/deviations to correct the conflict between these requirements.

A2.3.3.3. For new parts which are produced by a small business, the USAF procuring activity may choose not to require the small business to mark the part (reference DoDI 8320.04, Item Unique Identification (IUID) Standards for Tangible Personal Property). In these cases, the USAF procuring activity shall arrange for the part to be marked within 30 days of the receipt of the item. The USAF shall mark the item as it would mark a legacy item, reference paragraph A2.3.2. A Determination and Finding (D&F) must be accomplished prior to any decision concerning marking these parts.

Attachment 3

ITEM UNIQUE IDENTIFICATION IMPLEMENTATION INTEGRATED PRODUCT TEAM ORGANIZATIONAL CHARTER

A3.1. Air Force Materiel Command (AFMC) Item Unique Identification (IUID) Implementation Integrated Product Team (IPT)

Figure A3.1. Objective

A3.1. Objective

The mission of the AFMC IUID Implementation IPT is to develop AFMC policies and procedures for Air Force implementation of IUID to ensure the effective and efficient planning and execution of legacy and new acquisition asset marking and registration. The AFMC IUID IPT will address major elements of IUID implementation, as well as monitor IUID implementation activity for legacy and new asset acquisition. Additionally, the IPT will:

Coordinate and collaborate on best practices, processes and plans to assist the centers in establishing large scale IUID marking and registering of requisite items containing data labels and plates when processed through organic repair shops and commercial repair facilities.

Identify and address all elements of policy, planning and scheduling, engineering authority, equipment, training, and information systems that could impact timely implementation.

Address procedures for marking and registration.

Establish a common methodology for tracking and reporting status and compliance metrics for IUID Scorecard Reviews for depot maintenance marking and registration.

Figure A3.2. Background

A3.2. Background

DoD Instruction (DoDI) 8320.04 implements policy in DoD Directive 8320.03; established the IUID Registry roles and functions; assigns responsibilities and establishes procedures for operation and maintenance of the IUID Registry; and establishes the functional framework for IUID as it relates to these DoD policies.

The Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics (OUSD (AT&L)) has issued guidance that:

Directs a change of date to complete IUID marking and registration of legacy supply class II & IX items to December 31, 2015.

Reaffirms the December 31, 2010 compliance mandate for qualifying legacy items in all other supply classes.

Establishes implementation dates for marking and registering data label and data plate items at organic and commercial repair facilities.

AFMC was directed to address the parts marking mandate, from an Air Force perspective, and to further address all major elements of IUID implementation for legacy and newly acquired assets. This direction includes Air Force policy, planning, scheduling, engineering authority, equipment acquisition, training, and information systems. All items that meet DoDI 8320.04 requirements, and have a data label or data plate, are directed to be marked and registered when processed through organic or contracted maintenance depot activities.

Figure A3.3. Authority

A3.3. Authority

The AFMC IUID Implementation IPT will report directly to HQ AFMC/A4 and will be a critical link in the overall governance structure of IUID implementation across the command.

Figure A3.4. Membership

A3.4. Membership

The following membership is non-inclusive and will be modified as required. To date, members identified include:

Chair: Permanent Chairs designated from the staff of HQ AFMC/A4.

Secretariat: The Automatic Information Technology (AIT) Program Office (PO) will provide administrative support for the AFMC IUID IPT.

Members:

A4D (Depot Operations Division)

A4M (Maintenance Division)

A4N (Systems Division)

A4R (Logistics Readiness Division)

A4U (Life Cycle Management Division)

A6 (Information Technology)

FM (Financial Management)

PK (HQ Contracting)

Subject Matter Expert: The Automatic Information Technology (AIT) Program Office (PO) will act as an expert with specific subject matter expertise concerning IUID policies, processes, and technologies.

Additional members, including appropriate offices with IUID responsibilities, may be appointed by the IUID IPT Chair. The Co-Chairs are the approving authority for invited guests.

Figure A3.5. Roles and Responsibilities

A3.5. Roles and Responsibilities

The Chair is responsible for:

Scheduling and presiding over IUID Implementation IPT meetings, as well as publishing and distributing results of all sessions

Facilitating the IUID Implementation IPT agenda and the decision process for resolving issues

Developing and maintaining access to all IUID Implementation IPT information

Accomplishing established goals and updating HQ USAF /A4ID concerning AFMC IUID Implementation IPT progress and issues

Tracking and managing action items

Soliciting functional expertise as required

The Secretariat is responsible for:

Administrative and executive tasks delegated by Chair

The Members are responsible for:

Participating in the development of parts marking and registration capabilities, to include implementation planning and execution in their respective functional areas

Providing functional expertise as required

Ensuring functional area representation is present at all meetings

Reviewing IUID Implementation Plans and providing feedback to centers, prior to sending plans to HQ USAF /A4ID

Subject Matter Expert(s) shall be responsible for:

Fulfilling duties as a member of the IPT (see above)

Performing any necessary research on specific topics concerning IUID policy, procedures, and technology. This responsibility includes reporting research results to the IPT.

Collaborate with Chair on scheduling, and presiding over IUID Implementation IPT meetings

Figure A3.6. Expected Benefits

A3.6. Expected Benefits

Coordination of functional and technical expertise:

Maximizes benefits to AFMC through shared lessons learned

Will help to ensure that all A4 functional areas are consistently informed of all IUID related policies and processes

Increases continuity within the AFMC and across functional areas

Helps to ensure that all functional areas are represented, and that all matters are taken into consideration when making recommendations to HQ AFMC/A4 on development and deployment of IUID capabilities

Figure A3.7. Charter Timeline

A3.7. Charter Timeline

The charter will be indefinite and plays a significant role in governance of IUID for legacy part-marking.

Attachment 4

MARKING WAIVER REQUEST FORM – EXAMPLE

Figure A4.1. Marking Waiver Request Form – Example

MEMORANDUM FOR:

FROM: HQ USAF/A4I
1500 West Perimeter Road, Suite 4350
Joint Base Andrews, MD 20762

SUBJECT: Waiver to Item Unique Identification (IUID) Marking

1. I am requesting an exception to policy (IUID Marking) for the following item(s).

NSN Nomenclature

1005012342252CONVERSION KIT, 5.56 MILLIMETER RIFLE

1005014966757ACCESSORIES KIT, MACHINE GUN

1005014967975ACCESSORIES KIT, MACHINE GUN

2. Justification for this request is that the kit is consumed when the gun is converted and/or used.

3. Thank you for your consideration of this request. I can be contacted at (*phone #)* if any questions need to be addressed about this request.

Mr. Waiver Request
Director of Requests
AFMC